

**Shaw Environmental & Infrastructure Inc.**  
**Analytical Service Results Report**

Laboratory: **GC** Report Date: **12-May-2011**

**Quality Control Data Summary**

Technical Directive: **70A724SF**

Analysts: **J. Cox**

Method: **Modified RSKSOP-201 Rev.2**

			Analytes	2-Butoxyethanol			Propylene Glycol			Ethylene Glycol			2,2,2-Trichloroethanol (surrogate)			Diethylene Glycol			Triethylene Glycol			Tetraethylene Glycol		
			Codes	111-76-2			57-55-6			107-21-1			115-20-8			111-46-6			112-27-6			112-60-7		
			Unit	mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L		
			MDL	0.61			1.41			2.26			-			1.73			2.80			10.0		
			QL	10.0			10.0			10.0			-			10.0			10.0			10.0		
QC Sample ID	Additional ID	Date Prepared	Date Analyzed	Data	True Value	% REC	Data	True Value	% REC	Data	True Value	% REC	Data	True Value	% REC	Data	True Value	% REC	Data	True Value	% REC	Data	True Value	% REC
Water+Surrogate Blank	-	4/26/2011	4/26/2011	ND	-	-	ND	-	-	ND	-	-	105	100	105%	ND	-	-	ND	-	-	ND	-	-
CCC	100 mg/L	4/26/2011	4/26/2011	95.8	100	95.8%	87.4	100	87.4%	93.1	100	93.1%	102	100	102%	94.4	100	94.4%	91.9	100	91.9%	86.1	100	86.1%
SS	100 µg/L	4/26/2011	4/26/2011	107	100	107%	101	100	101%	113	100	113%	107	100	107%	110	100	110%	110	100	110%	113	100	113%
6032-2 MS	100 mg/L	4/26/2011	4/26/2011	101	ND(100)	101%	95.7	ND(100)	95.7%	100	ND(100)	100%	102	ND(100)	102%	101	ND(100)	101%	102	ND(100)	102%	92.5	ND(100)	92.5%
Water+Surrogate Blank	-	4/26/2011	4/26/2011	ND	-	-	ND	-	-	ND	-	-	98.7	100	98.7%	ND	-	-	ND	-	-	ND	-	-
CCC	100 µg/L	4/26/2011	4/27/2011	94.5	100	94.5%	88.5	100	88.5%	91.4	100	91.4%	98.9	100	98.9%	89.0	100	89.0%	85.8	100	85.8%	73.2	100	73.2%
Water+Methanol Blank	-	4/26/2011	4/27/2011	ND	-	-	ND	-	-	ND	-	-	-	-	-	ND	-	-	ND	-	-	ND	-	-

**Comments:**

Not all QC results met criteria established in RSKSOP-122/4. The final CCC failed to meet the DQO for tetraethylene glycol. This occurred during automated analysis and reanalysis was not possible until several days after initial analysis. However, repeated CCC's met the DQO so no further analyses were required according to RSKSOP-201/2. The QL's and MDL's were completed April 20, 2011.

**Notes:**

1. **MB** - Method Blank. **CCC** - Continuing Calibration Check. A calibration standard analyzed within the batch of samples. **LCS** - Laboratory Control Spike. A laboratory blank spiked with analytes at known concentrations. **MS** - Matrix Spike. A field sample spiked with known concentrations of analytes. The field sample id is identified. **SS** - Samples obtained from the second sources are identified by their designated names. **DUP** - Field sample duplicate analysis. A sample selected by the lab analyst to analyze as a duplicate. It is reported in the sample result section. **% REC** - Percent Recovery. Calculated as the percentage of the results to the true values. It equals to % accuracy for CCC.

**MEMORANDUM** (LABORATORY DATA REPORT)

**Shaw Environmental & Infrastructure, Inc.**

**Contract No. EP-C-08-034**

**In reply refer to: 11-JSC-11**

**To:** D. Miller  
C. Paul

**From:** John S. Cox  
**Lab:** GC

**Thru:** S. Kumar  
J. Cox

**Date:** 12-May-2011

**Technical Directive:** 70A724SF  
**Task No.:** 23993

**Originator:** Rick Wilkin  
**Copies:** S. Vandegrift  
J. Cox

**Project/Sample Site:** Pavillion Groundwater

**Date Collected:** 4/14-21/2011

**Date Received:** 22-Apr-2011

**Date Analyzed:** 26-27-April-2011

**No. Samples Analyzed:** 5

**Shaw Sample Set No.:** 6032

**Sample Matrix:** Water

**Analysis Type:** GC direct inject

**Sample Preparation:** N/A

**Method(s) Used :** Modified RSKSOP-201 Rev. 2 - GC Analysis of Alcohol Compounds in Water  
Samples

**Comments:**

Not all QC results met criteria established in RSKSOP-122/4. The final CCC failed to meet the DQO for and tetraethylene glycol. This occurred during automated analysis and reanalysis was not possible until several days after initial analysis. However, repeated CCC's met the DQO so no further analyses required according to RSKSOP-201/2.

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Page 1 of 1

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Analysts:

J. Cox

Method:

Modified RSKSOP-201 Rev.2

Analysts:	J. Cox		Analytes	2-Butoxyethanol		Propylene Glycol		Ethylene Glycol		2,2,2-Trichloroethanol (surrogate)			Diethylene Glycol		Triethylene Glycol		Tetraethylene Glycol				
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			QL	10.0		10.0		10.0		-			10.0		10.0		20.0				
Method:	Modified RSKSOP-201 Rev.2		Date Analyzed	Data	DF	Data	DF	Data	DF	Data	True Value	% REC	Data	DF	Data	DF	Data	DF			
			PGDW14-0411	6032-01	4/20/2011	4/26/2011	ND	1	ND	1	ND	1	100	100	100%	ND	1	ND	1	ND	1
			PGDW14-0411	6032-01 DUP	4/20/2011	4/26/2011	ND	1	ND	1	ND	1	101	100	101%	ND	1	ND	1	ND	1
			PGDW49-0411	6032-02	4/20/2011	4/26/2011	ND	1	ND	1	ND	1	108	100	108%	ND	1	ND	1	ND	1
			PGDW23-0411	6032-03	4/21/2011	4/27/2011	ND	1	ND	1	BQL(2.78)	1	112	100	112%	BQL(3.68)	1	BQL(3.99)	1	ND	1
			PGDW44-0411	6032-04	4/21/2011	4/27/2011	ND	1	ND	1	ND	1	99.0	100	99.0%	BQL(2.11)	1	ND	1	ND	1
			Field Blank	6032-05	4/21/2011	4/27/2011	ND	1	ND	1	ND	1	92.5	100	92.5%	ND	1	ND	1	ND	1

**Comments:**

Not all QC results met criteria established in RSKSOP-122/4. The final CCC failed to meet the DQO for and tetraethylene glycol. This occurred during automated analysis and reanalysis was not possible until several days after initial analysis. However, repeated CCC's met the DQO so no further analyses were required according to RSKSOP-201/2. Flagged BQL values may due to possible carryover from a previous matrix spike. The QL's and

**Notes:**

1. If the parameter was detected above the quantitation limit (QL), the numeric result is reported; BQL denotes that the parameter was not detected at or above the quantitation limit. BQL ( ) denotes that the parameter was detected above the method detection limit (MDL) but below QL and the estimated numeric result is reported in parenthesis; ND denotes that the parameter was not detected at all. All the results are corrected with dilution factors (DF), if applicable.

2. "-" denotes that the information is not available or the analyte is not analyzed.